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Correspondence

Letter to the editor: Is an ischemic etiology especially detrimental for women with heart failure?

Cornelia P.M. Berkvens, Paula M.C. Mommersteeg *

CoRPS, Center of Research on Psychology in Somatic diseases, Department of Medical and Clinical Psychology, Tilburg University, Tilburg, The Netherlands

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Orszulak and colleages [1] reported elevated depressive symptoms in women with heart failure (HF) with reduced ejection fraction (LVEF), which is accordant with meta-analytic findings [2]. The difference was marked by more depressive symptoms in women with an ischemic etiology of HF. The authors are complimented for reporting gender as well as ischemic etiology stratified findings. We would like to add to their discussion and suggest an analysis.

Accordant with most cardiovascular studies, the study has a male-dominated gender imbalance (79% men). This is a likely result of the inclusion criteria of a reduced LVEF, since women more often have HF with a preserved LVEF [3]. Consequently, gender biases are present, e.g. women are older and men more often have a history of obstructive ischemic heart disease. This gender bias may coincide with a gender difference in depressive symptoms.

An underlying mechanism could be that women more often have coronary microvascular dysfunction (CMD) in the absence of obstructive coronary arteries [4]. CMD can predispose to HF [4], and is modulated by chronic inflammation. Depression is related to elevated levels of inflammatory cytokines [4,5].

We suggest to examine if gender, depression, and their interaction predict an ischemic etiology, adjusted for age, LVEF, diabetes and cardiac event history. A significant gender*depression interaction further validates the notion that women with an ischemic etiology more often have depressive symptoms than men. In future studies, this potential gender difference in ischemic etiology need to be included and it is necessary to expand research on mechanisms.

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* Corresponding author.
E-mail address: p.m.c.mommersteeg@uvt.nl (P.M.C. Mommersteeg).

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